

REMARKS

Applicants cancel claims 46, 48, 50, 52, and 54. Claims 1-14, 17, 22, 25-34, 37, and 41 have previously been canceled. Claims 15-16, 18-21, 23-24, 35-36, 38-40, and 42-45, 47, 49, 51, and 53 are now pending in the application. Applicants amend claims 15, 35, 45, 47, 49, 51, and 53 for further clarification. No new matter has been added.

The Examiner objected to claim 48 for allegedly being a duplicate of claim 47. Applicants cancel claim 48 and respectfully request that the Examiner withdraw the objection.

Claims 40 and 42-44 stand rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 6,359,877 to Rathonyi et al. Applicants respectfully traverse the rejection.

Rathonyi et al. describe an apparatus for minimizing overhead in a communication system, in which transmission rate is changed in conformity with the communication state. And a retransmission packet is divided into sub-packets and retransmitted sub-packet by sub-packet, or is transmitted together with another packet. But Rathonyi et al., as cited and relied upon by the Examiner, do not disclose a modulation parameter being transmitted with the retransmission data at the time of retransmission.

Thus, Rathonyi et al., as cited and relied upon by the Examiner, fail to disclose,

“[a] packet transmitting apparatus in a communication system for transmitting a packet signal upon changing over a parameter of a transmit signal in accordance with conditions of a propagation path, and, when the packet signal cannot be received correctly on a receiving side, retransmitting the packet signal, said apparatus comprising:

buffer means for storing a transmitted packet with identifying information and a modulation parameter appended thereto;

means for deciding a modulation parameter based upon conditions of the propagation path; and

retransmitting means for deleting a packet, for which successful reception has been sent back from a receiving side, from said buffer means, and retransmitting a packet, for which reception failure has been sent back from the receiving side,

upon attaching identifying information and a modulation parameter prevailing at time of retransmission. with the retransmission being performed based upon a modulation scheme that conforms to this modulation parameter, wherein said retransmitting means includes:

means for comparing a modulation parameter that has been attached to packet data to be retransmitted and a modulation parameter conforming to the conditions of the propagation path prevailing at the time of retransmission; and

means for retransmitting a plurality of packets, which have been stored in said buffer means, as a single retransmission packet signal upon attaching respective ones of identifying information of these packets if result of the comparison is that the conditions of the propagation path at the time of retransmission are superior to those that prevailed at the time of the previous transmission,” as recited in claim 40. (Emphasis added)

Accordingly, Applicants respectfully submit that claim 40, together with claim 42 dependent therefrom, is patentable over Rathonyi et al. for at least the foregoing reasons. Claim 43 incorporates features that correspond to those of claim 40 cited above, and is, therefore, together with claim 44 dependent therefrom, patentable over Rathonyi et al. for at least the same reasons.

Claims 45, 47-49, 51, and 53 were rejected under 35 U.S.C. § 102(b) as being anticipated by Japanese Patent Application Publication No. H11-215192 to Inoue. Applicants amend claims 45, 47, 49, 51, and 53 in a good faith effort to further clarify the invention as distinguished from the cited reference, and respectfully traverse the rejection.

With reference to Fig. 6 thereof, Inoue describes a packet having a sequence number $N(S)=5$ being divided into small packets and the packet $N(S)=5$ being resent by resending the small packets, each of which having a same sequence number $N(s)$ and a sub-transmission order number $M(S)=1$, $M(S)=2$, $M(S)=3$, etc. Thus, Inoue, as cited and relied upon by the Examiner, fails to disclose the claimed feature of resending small packets each having only a same and single packet number as packet number information.

In other words, Inoue, as cited and relied upon by the Examiner, fails to disclose,

“[a] transmitting apparatus capable of executing retransmission of packet data when the packet data cannot be received correctly on a receiving side, said transmitting apparatus comprising:

a transmission parameter controller which changes a transmission parameter in accordance with conditions of a propagation path; and

a controller which obtains a plurality of divided packet data by dividing packet data which has been transmitted and conducts retransmission of the plurality of divided packet data respectively based on the transmission parameter, wherein each of the plurality of the divided packet data includes only a same and single number as number information of the packet data which has been transmitted.” as recited in claim 45. (Emphasis added)

Accordingly, Applicants respectfully submit that claim 45 is patentable over Inoue for at least the foregoing reasons. Claims 47, 49, 51, and 53 incorporate features that correspond to those of claim 45 cited above, and are, therefore, patentable over Inoue for at least the same reasons.

Claims 15-16, 18-21, 23-24, 35-36, 38-39, 46, 50, 52, and 54 were rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 7,212,532 to McFarland et al. in view of Rathonyi et al. Applicants cancel claims 46, 50, 52, and 54. Applicants amend claims 15 and 35 in a good faith effort to further clarify the invention as distinguished from the cited references, and respectfully traverse the rejection.

According to McFarland et al.—please see, e.g., column 3 line 11 to column 4, line 31 thereof—if node A desires to send a message to node B, node A establishes a link with node B and sends inquiry packet including a file name, file size, CRC and so on to node B. Node B compares the information of the inquiry packet with previously received files and decides whether the file that node A desires to send is a new file, a file which has been completely received, or a file of which a part has been received. Thereafter, node B sends a response packet including the result of the decision. Based upon the response packet, node A does not send the file if the file has been completely received by node B, sends a fragment packet that

includes a fragment or portion of the file if the file has not been received completely by node

B, and sends the fragment packet that includes a whole of the file if the file is a new file for node B.

From the foregoing, McFarland et al., as cited and relied upon by the Examiner, do not disclose or suggest a packet retransmission technique in which a packet is retransmitted to a receiver from a transmitter if the receiver failed to receive the packet correctly. Further, McFarland et al. fail to teach a combination technique in which a combiner combines a retransmitted packet with a previously-received and stored packet that the receiver could not restore correctly.

And like McFarland et al., Rathonyi et al. do not disclose the packet retransmission technique and the combination technique.

In addition, neither McFarland et al. nor Rathonyi et al. disclose or suggest comparing a first parameter that has been attached to retransmit data and a second parameter that has been attached to previously-received and stored data and performing a combination process based upon a result of the comparison.

In other words, even assuming, arguendo, that it would have been obvious to one skilled the art at the time the claimed invention was made to combine McFarland et al. and Rathonyi et al., such a combination would still have failed to disclose or suggest,

“[a] data receiving apparatus in a communication system for transmitting data upon changing over a parameter of a transmit signal in accordance with conditions of a propagation path, and, when the data cannot be received correctly on a receiving side, retransmitting the data, said apparatus comprising:

receiving means for receiving transmit data and retransmit data;

buffer means for storing the transmit data which contains an error;

combining means for combining data extracted from the buffer means with the retransmit data; and

extracting means for extracting data to be input to the combining means from the buffer means,
means for comparing a first parameter that has been attached to the retransmit data and a second parameter that has been attached to the data extracted from said buffer means; and
data cutting means for cutting out part of the data, which has been extracted from said buffer means, and inputting it to said combining means if result of the comparison is that the conditions of the propagation path at the time of retransmission are inferior," as recited in claim 15. (Emphasis added)

Accordingly, Applicants respectfully submit that claim 15, together with claim 16 and 18-19 dependent therefrom, is patentable over McFarland et al. and Rathonyi et al. for at least the foregoing reasons. Claims 20 and 35 incorporate features that correspond to those of claim 15 cited above, and are, therefore, together with claims 21, 23-24, 36, and 38-39 dependent therefrom, respectively, patentable over McFarland et al. and Rathonyi et al. for at least the same reasons.

In view of the remarks set forth above, this application is in condition for allowance which action is respectfully requested. However, if for any reason the Examiner should consider this application not to be in condition for allowance, the Examiner is respectfully requested to telephone the undersigned attorney at the number listed below prior to issuing a further Action.

Any fee due with this paper may be charged to Deposit Account No. 50-1290.

Respectfully submitted,

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DTC:tb
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